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HURRICANE IMPACT

WINDOW SYSTEMS



WAUSAU

WINDOW AND WALL
SYSTEMS

ENHANCED PROTECTION FOR
ESSENTIAL FACILITIES CALLS FOR
HURRICANE IMPACT-TESTED WINDOW
PRODUCTS MEETING THE MOST STRINGENT
PERFORMANCE REQUIREMENTS.

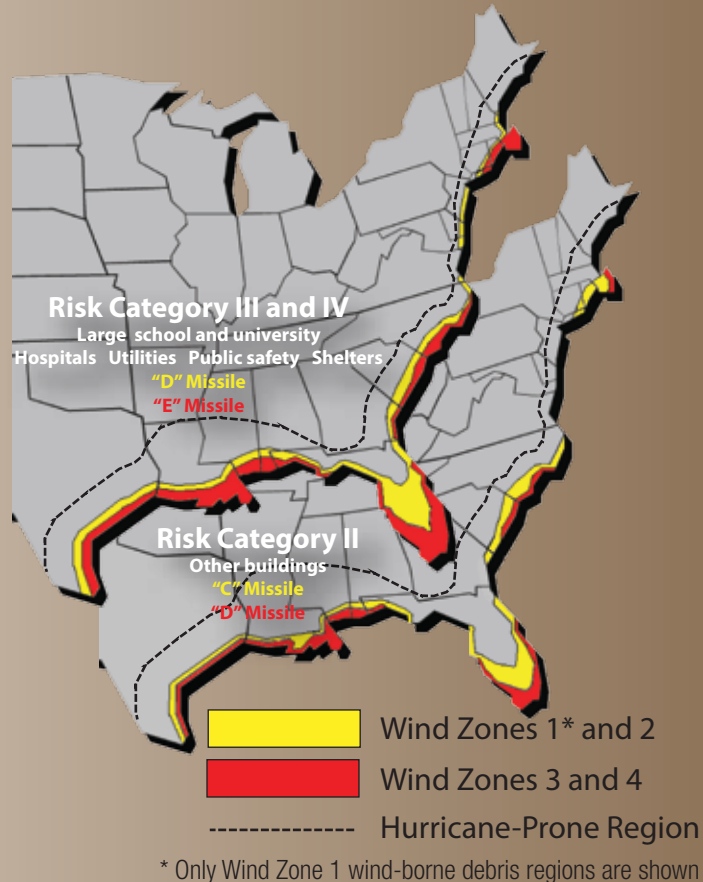
WAUSAU WINDOW AND WALL SYSTEMS' INVENT™ 3250I-HP-XLT, 4250I-HP-XLT AND 3250-HP SERIES CASEMENT, PROJECTED AND FIXED WINDOWS RISE TO THE CHALLENGE, AND ARE OFFERED WITH A BROAD RANGE OF TEST-PROVEN OPTIONS AND ACCESSORIES.

WHETHER THE DESIGN GOAL IS BASIC CODE COMPLIANCE OR A HIGHER LEVEL OF PROTECTION FOR PROPERTY AND OCCUPANTS, WAUSAU'S HURRICANE IMPACT WINDOWS ANSWER THE CALL.

The most current 2010 edition of the American Society of Civil Engineers ASCE-7 "Design Loads for Buildings and Other Structures," in conjunction with the International Building Code IBC-2012, establish design wind speeds for all building types. The schematic maps at right show the extent of hurricane-impact requirements cited in IBC-2012. Be sure to check local code and project specifications for requirements applicable to any particular site or project - and verify whether additional protection may be warranted.

Wausau products are "large missile" tested to comply with requirements both below and above 30 feet, without non-uniformity in glass appearance that can result from the use of different "small missile" glass. "D" missile impact uses a nine-pound, 2x4-inch stud fired at 50 feet per second. "E" missile impact increases velocity to 80 feet per second. Impacts are followed by cyclical pressure testing.

All testing is conducted in compliance with stringent Miami-Dade TAS protocols, and Wausau window products carry Miami-Dade Notices of Acceptance (NOAs), Florida Product Approvals, and Texas Department of Insurance (TDI) listings.

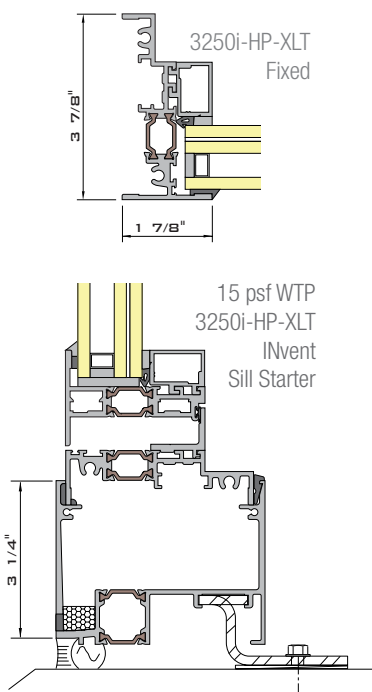


www.wausauwindow.com . Download details, specifications and product performance information.

INVENT 3250I- AND 4250I-HP -XLT

HURRICANE IMPACT RESISTANT FIXED AND OPERABLE WINDOWS

- 3-7/8" (3250i) and 4-7/8" (4250i) frame depth
- 24mm XLT polyamide thermal barrier
- AAMA AW-100 Architectural Performance Class
- Fixed, project-in or project-out casement, project-out awning or project-in hopper
- Integral blinds with access doors available
- 0.125" extrusion wall thickness
- Conventional hardware or multi-lock option
- Large "D" missile impact tested for basic protection in Wind Zones 1-4
- "E" missile impact tested for essential facilities' enhanced protection in Wind Zones 3-4
- Tested with receptors and steel strap anchors to address varying substrate configurations



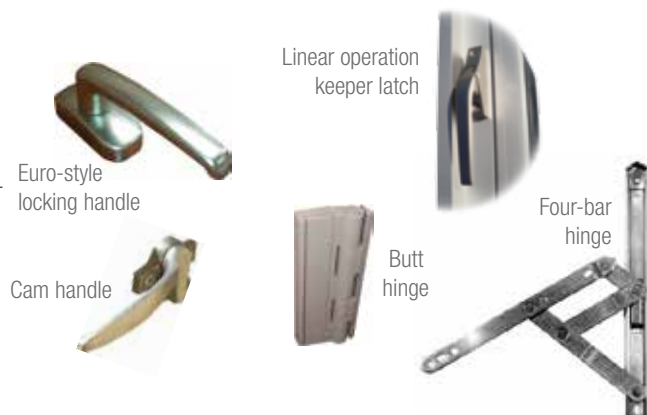
BETWEEN-GLASS BLINDS

LOW MAINTENANCE AND GLARE CONTROL

- Available with 1" or 5/8" aluminum slats in 16 standard colors
- Occupant privacy and glare-reduction tilt control with slip-clutch feature
- Concealed raise-lower cords for uniform exterior appearance
- Hinged interior doors for custodial access
- Triple-glazed options for control of solar heat gain

WINDOW HARDWARE

FOR OCCUPANT OR CUSTODIAL OPERATION - DURABLE AND ATTRACTIVE DESIGNS



Allowable Air	Water	NFRC U-Factor	CRF _f	STC
0.10 cfm/sqft at 6.24 psf	15 psf	0.34 to 0.64 BTU/hr.sqft.*F	46 to 65	31 to 42

Test results may vary - Thermal and acoustical performance cited with non-hurricane-impact resistant glass.

TEST SUMMARY		
WAUSAU Invent™ 3250i- and 4250i-HP-XLT Series Hurricane Windows		
CONFIGURATION or OPTION	"D" MISSILE TESTED Miami-Dade TAS Protocols	"E" MISSILE TESTED Miami-Dade TAS Protocols
Risk Category II Buildings	Wind Zones 1, 2, 3 and 4*	Not required
Risk Category III and IV Buildings	Wind Zones 1 and 2	Wind Zones 3 and 4
Design Wind Pressure	80 psf (ASD)	100 psf (ASD)
Glass and Glazing Types 1/4" fully tempered (FT) or heat strengthened (HS) exterior	G1 or G2 : Wet-glazed 1-5/16" IG : 1/4" FT or HS exterior 1/2" air space 9/16" Vanceva® laminated	G5 or G6 : Wet-glazed 1-7/16" IG : 1/4" FT or HS exterior 1/2" air space 11/16" Vanceva® laminated
	G3 or G4 : Dry-glazed 1-5/16" IG : 1/4" FT or HS exterior 1/2" air space 9/16" SentryGlas® laminated	G7 or G8 : Dry-glazed 1-7/16" IG : 1/4" FT or HS exterior 1/2" air space 11/16" SentryGlas® laminated
	Triple-glazed G1 or G2 exterior 5/8" or 1" blinds Interior access door	Triple-glazed G5 or G6 exterior 5/8" or 1" blinds Interior access door
	Triple-glazed G3 or G4 exterior 5/8" or 1" blinds Interior access door	Triple-glazed G7 or G8 exterior 5/8" or 1" blinds Interior access door
Overall Window System		
Frame Depth	3-7/8" or 4-7/8"	3-7/8" or 4-7/8"
Meeting Rails	2-7/8"	2-7/8"
Self-Stacking Mullions	Available	Available
Project-Out Casement Vents**		
Maximum Vent Size (Width x Height)	36" x 60"	36" x 60"
Locks	Linear operation multi-lock or cam handles	Linear operation multi-lock or cam handles
Hinges	Butt hinges or stainless steel (SS) four-bar friction hinges	Butt hinges or SS four-bar friction hinges
Notice of Acceptance (NOA) Miami-Dade County, Florida	#13-0917.05 Expires April 2023	#13-0917.05 Expires April 2023
Project-Out Awning Vents**		
Maximum Vent Size (Width x Height)	60" x 36"	60" x 36"
Maximum Fixed-over-Awning (punched opening only)	60" x 84"	60" x 84"
Locks	Linear operation multi-lock or cam handles	Linear operation multi-lock or cam handles
Hinges	SS four-bar friction hinges	SS four-bar friction hinges
Notice of Acceptance (NOA) Miami-Dade County, Florida	#13-0917.07 Expires April 2023	#13-0917.07 Expires April 2023
Project-In Casement Vents		
Maximum Vent Size (Width x Height)	36" x 60"	36" x 60"
Locks	Linear operation or Euro multi-lock or cam handles	Linear operation or Euro multi-lock or cam handles
Hinges	Butt hinges or SS four-bar friction hinges	Butt hinges or SS four-bar friction hinges
Notice of Acceptance (NOA) Miami-Dade County, Florida	#13-0917.04 Expires April 2023	#13-0917.04 Expires April 2023
Project-In Hopper Vents		
Maximum Vent Size (Width x Height)	60" x 36"	Not available
Maximum Fixed-over-Hopper (punched opening only)	60" x 84"	
Locks	Cam handles	
Hinges	SS four-bar friction hinges	
Notice of Acceptance (NOA) Miami-Dade County, Florida	#13-0917.08 Expires April 2023	
Fixed Windows		
Maximum Fixed Lite Size (Width x Height) also see Table below	45-3/8" x 69 - 3/8" Glass Size 48" x 72" Window Dimension	45-3/8" x 69 - 3/8" Glass Size 48" x 72" Window Dimension
Interior or Exterior Glazing	Interior or Exterior	Interior or Exterior
Notice of Acceptance (NOA) Miami-Dade County, Florida	#13-0917.06 Expires April 2023	#13-0917.06 Expires April 2023
Anchors and Accessories for all window types		
Receptors and Starters	Receptors directly anchored to substrate or with steel strap anchors	Receptors with steel strap anchors
Anchors	Steel strap anchors	Steel strap anchors
Screens	Wickets or hinged screens required	Wickets or hinged screens required
Between-Glass Blinds	5/8" or 1" blinds	5/8" or 1" blinds
*Risk Category II buildings require only C missile protection in Wind Zones 1 and 2. **Roto operators, grid muntins and beveled glazing rebates are not available on Invent HP-XLT Series windows		

Invent windows may be finished in dual colors to match the building's interior and exterior design, with a color palette of more than 30,000 choices.

Finishes may be requested with liquid paints composed of up to 100% post-industrial waste, or powder paint and anodize finishes specified as VOC-free coatings.



Production line sampling, with inspection and water testing prior to shipment, helps ensure real-world performance equal to the laboratory.



STACK MULLIONS and INTEGRAL IMPOSTS											
Length	DESIGN LOAD CAPACITY* (psf)										
	Imposts	Stacks	Imposts	Stacks	Imposts	Stacks	Imposts	Stacks	Imposts	Stacks	
54	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
60	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
66	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
72	100.0	100.0	96.3	100.0	87.7	92.1					
Width	36		42		48		54		60		

Fecol - Costa Rica Federal Building - Hato Rey, Puerto Rico - WASA - Invent Blast-Hazard Mitigating Hurricane Impact Windows

3250-HP SERIES HURRICANE WINDOWS

Wausau's AAMA AW-120 rated 3250-HP Hurricane windows have been the product of choice for dozens of hospitals in hurricane-prone regions, and are Miami Dade Product Control Approved:

- Fixed window, large missile
Notice of Acceptance (NOA) #12-0416.07
Miami-Dade County, Florida, 25Apr17
- Fixed window, small missile
Notice of Acceptance (NOA) #12-0416.09
Miami-Dade County, Florida, 25Apr17
- Casement window, large missile
Notice of Acceptance (NOA) #12-0416.06
Miami-Dade County, Florida, 25Apr17
- Casement window, small missile
Notice of Acceptance (NOA) #12-0416.08
Miami-Dade County, Florida, 25Apr17



3250-HP Hurricane

ADVANTAGE
BY WAUSAU

PRE-ENGINEERED STANDARD PRODUCTS FOR COMPETITIVE PRICING AND QUICK DELIVERY

Miami-Dade Product Control Approval Wausau 3250-HP Large Missile Impact-Resistant Fixed Windows												
Short Dimension	Design Load Capacity (Positive and Negative psf)											
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
30"	80.0	90.0	80.0	90.0	80.0	90.0	80.0	90.0	80.0	90.0	80.0	90.0
36"	80.0	90.0	80.0	90.0	80.0	90.0	80.0	90.0	80.0	90.0	80.0	90.0
42"	80.0	90.0	80.0	90.0	80.0	90.0	80.0	90.0				
49"	80.0	90.0	80.0	90.0	80.0	90.0						
54"	72.6	81.7	72.6	81.7								
59"	66.4	74.7										
Long Dimension	59"		65"		72"		84"		98"		117"	

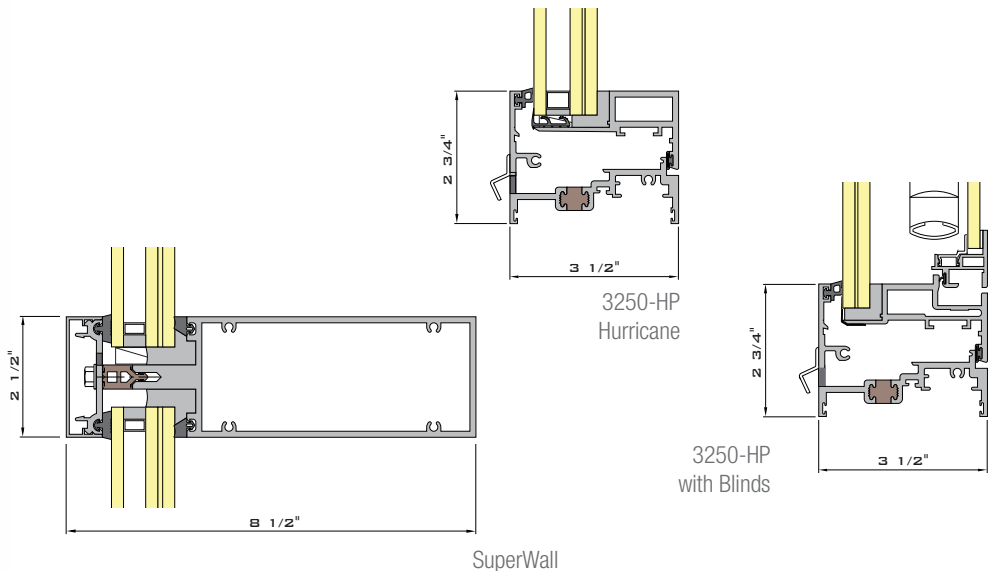
1. All window dimensions are frame dimensions +/- 1/2".
2. Sizes listed are maximum allowable at load indicated. If no load is listed for a given size, the size exceeds allowable and is not acceptable.
3. Casement size maximum is 4'-0" wide by 6'-0" high with allowable design pressures of +80 psf and -90 psf.

SUPERWALL™

Wausau's 6250 and 8250 Series SuperWall systems have been tested to meet the large missile requirements of ASTM 1996 for Wind Zone 1, including module sizes up to 5'-6" x 10'-1".



SuperWall Hurricane



WAUSAU

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WAUSAU'S EXTRUDED ALUMINUM FRAMES CONTAIN RECYCLED CONTENT AVERAGING 70% OR GREATER.

